

09/890677

L Number	Hits	Search Text	DB	Time stamp
1	0	broeckx-walter-austust-maria.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 14:51
2	0	broeckx-walter-austust-m\$.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 14:51
3	9	broeckx-walter-august-m\$.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 14:52
4	72	johnston-james-pyott.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 14:53
5	20	parry-diane.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 14:55
6	10	laundry same (microsphere or cavity or cavities or pore) near8 expand\$6	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 14:59
7	35	laundry and microsphere same (hydrocarbon or gas\$3)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2003/07/02 15:00

Search statement 1

?fam j58021497/pn

1 Patent Groups

\*\* SS 1: Results 1

Search statement 2

?prt full

1/1 WPAT - (C) Derwent

AN - 1983-26638K [11]

XA - C1983-026100

TI - Low bulk density detergent additive mfr. - by mixing perborate powder with water-insol. inorganic material in presence of water and heating

DC - D25 E34

PA - (LIOY ) LION CORP

NP - 1

NC - 1

PN - JP58021497 A 19830208 DW1983-11 5p \*

PR - 1981JP-0120266 19810731

IC - C11D-003/12

AB - JP58021497 A

Mfr. of an additive for a detergent having a low bulk density comprises mixing an alkali salt powder of perborate having 200-600 micron average particle size (A) with fine powder of a water-insol. inorganic material (B) having 0.1-100 micron average particle size in 9/1-1/9 proportion by wt. in the presence of water corresp. to 25-45 wt.% of the total wt. of the powders to cover the surface of the alkali perborate (A) with (B), and heating obtd. particles to at least 200 deg.C. Pref. the bulk density of the detergent additive is 0.15-0.50 g/cc. The water-insol. inorganic fine powder is CaCO<sub>3</sub> or alumino-silicate.

- Since the detergent additive is prepd. by allowing fine powders of water-insol. inorganic material on the surface of particles for serving as nucleus having reduced bulk density by swelling, the bulk density of the detergent additive is also small at almost the same level as the pulverous detergent itself. The additive can be uniformly mixed with the pulverous detergent causing no classification even if it is subjected to vibration, etc. Since the additive is water-soluble, the performance of the detergent is not deteriorated.
- Pref. perborate is sodium perborate. It is swollen by heating to at least 200 deg.C. Optimum degree of the swelling is attained when the particle size of the perborate is 200-500, (400-500)microns on average.

MC - CPI: D11-B01 D11-B11 E31-E E31-P02 E34-D03

UP - 1983-11